MEMOIR 1: MIAMI GEOLOGICAL SOCIETY

A SYMPOSIUM OF RECENT SOUTH FLORIDA FORAMINIFERA

by

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STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
NUMBER OF SPECIMENS	347	368	307	308	301	208	117	307	231	208	303	56	31	223	182	58	309	39	307
Ammodiscus incertus					0.3	0.5	0.8												
Glomospira charoides	0.9	0.3			0.3														
Ammobaculites dilatatus									0.4	1									
A. exiguus																			
Schenckiella occidentalis	10		0.3	0.6	1			6		1	1		6						0.3
Clavulina tricarinata	0.6			2	2			0.3											
Valvulina oviedoiana (Group 1)	2	1	1	2															0.3
V. oviedoiana (Group 2)	0.3	0.8																	
Cyclogyra involvens			2			2	6	0.7	2	3	1				0.5		0.3	3	
Nodobacularielia cassis																			
Miliolinella circularis	2	1	10	4	8	12	3	2	6	4	7		3	4	2		1		19
M. fichteliana		0.5																	
M. labiosa																			
M. obliquinoda	0.6	0.5	0.3	0.3	0.3		0.8		1	2	1	2	16		1		0.3		3
M. subor bicularis																		3	
Massilina secans		0.8	2	0.3	1	0.5	2	0.7	0.9										
Pyrgo subsphaerica	0.3																		
Quinqueloculina agglutinans	0.9	8	3				0.8		0.4				3				0.6		
Q. boeciana	10	3	7	15	10	18	7	16	45	18	6	36	3	7	16	14	17	46	18
Q. laevigata	3	1	3	8	4	3	0.8	28	9	7	14	16	3	3	7	2	3	5	6
Q. lamarckiana	3	8	5														4	3	
Q. poeyana	25	8	8	25	6	18	3	10	7	11	4	30		7	4	9	9	5	9
Q. polygona	1	0.8						0.3	0.4		0.3					2			0.6
Q. sabulosa	3	2	1	3	0.3	0.5	3	2	0.4	1	2						2		2
Q. seminulum	3	0.8	3	4		0.5	0.8	2	0.4	2	0.7	2	3	0.9	0.5		1	8	1
Q. subpoeyana	0.6	6	3	6		0.5	2	1	0.9	1	2	2		0.4	0.5	2	3		1
Q. tenagos	0.6	0.8																	
Spiroloculina antillarum				0.3		0.5													
S. eximia					0.3														
Triloculina bassensis	0.6	1.3	3	0.3				0.7	0.4	0.5					1				
T. bermudezi	8	4	7	9	43	12	43	23	11	23	29	5	39	27	25	33	29	15	32
T. linneiana	2	2	5	2	2	1	2	1	2	11	3	2		7	4	5	8	3	4
T. oblonga	3	1	3	6	5	5	3	4	1	2	1			1	1		1		
T. rotunda	0.6	0.5	1	0.6	2	1	0.8	0.3		0.5	1	4			0.5		1	3	1
T. sidebottomi	0.9																		
T. trigonula	0.9	2		0.3															0.6
Haueri na bradyi	3	3	5	3	5	21	15	2	9	7	25	2	6	41	33	7	15	8	1
Archaias angulatus		2.0	8				0.8									5			0.6
Fissurina cf. F. lucida																			
Buliminella elegantissima																			
Bolivina lanceolata	0.6																		
B. lowmani																			
B. striatula																			
Discorbis floridana	0.9	1	0.6	1	3	2	5		0.9		2		6	2	2	2	0.6		0.3
D. nitida		0.5			0.3														0.3
D. rosacea																			
Planorbulina mediterranensis	0.3																		
Ammonia beccarii	2	2	9													10			0.3
A. translucens	5			9	6			1					10			2			
Elphidium advenum	0.3																		
E. galvestonense		4	9					1	0.4							7			
E. poeyanum	4	0.8	0.3				0.8		0.9	0.5	0.3					2	0.3		
E. sagrum		0.3																	
Nonion depressulum										3									
N. grateloupi										0.5									
DEPTH (meters)	1.2	2.0	2.3	0.9	2.1	2.4	2.6	2.4	2.4	2.4	2.3	1.8	2.0	2.6	2.4	2.0	1.8	2.4	2.3
TEMPERATURE (C)	28.1	28.2	29.7	29.5	29.6	30.0	31.0	30.1	30.0	32.4	30.4	32.0	30.1	29.9	30.0	31.0	31.1	29.8	30.1
SALINITY (‰)	25.3	26.5	26.5	25.7	26.1	25.9	25.8	25.5	25.3	25.7	26.1	25.8	26.3	26.1	25.9	26.3	26.5	26.2	26.1
pH	7.9	7.7	7.7	6.9	7.3	7.6	7.9	8.0	8.0	8.0	8.1	7.6	7.3	7.3	7.8	7.7	7.9	8.1	7.9
Eh (mv)	318	382	-42	-210	-115	-71	10	202	203	100	113	-43	39	-47	-41	173	293	179	156
SAND (%)	24	65	68	37	25	30	38	23	67	24	29	12	23	25	20	31	58	11	46
SILT (%)	38	5	6	20	21	44	11	35	11	62	41	37	51	54	45	31	8	71	27
CLAY (%)	38	29	26	43	54	26	51	42	22	14	30	51	26	21	35	38	34	18	27

TABLE 1. Faunal composition in percent of August 14th, 1962 collection.

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
NUMBER OF SPECIMENS	305	322	322	298	68	277	184	122	166	30	33	9	6	243	69	60	350	407	342
Ammodiscus incertus								0.8											
Glomospira charoides														0.4					
Ammobaculites dilatatus	0.6		0.6						0.6								0.3		
A. exiguus																			
Schenckiella occidentalis	4			0.3	1	0.4		0.8	1							2	11	0.2	
Clavulina tricarinata	3			6	4			0.8						0.4					
Valvulina oviedoiana (Group 1)	2	4		3															0.3
V. oviedoiana (Group 2)	0.6	0.6						0.8											0.3
Cyclogyra involvens	1					1	1		2	3	3			0.4		2	0.6	0.2	0.3
Nodobacularielia cassis																			
Miliolinella circularis	2	5	0.9	0.3	1	2	2	0.8	0.6	3				1		5	3	4	5
M. fichteliana																			
M. labiosa																			
M. obliquinoda	0.3	0.9	0.3	2	1	0.7			0.6					0.4			1	2	0.3
M. suborbicularis																			
Massilina secans		0.3	0.3																
Pyrgo subsphaerica																			
Quinqueloculina agglutinans	0.3	1	1																1
Q. bosciana	16	9	33	14	7	9	15	11	38	10	3	100	17	21	22	12	9	12	12
Q. laevigata	6	12	26	8	6	6	5	11	4	10					7	13	2	1	7
Q. lamarckiana	0.6	0.6	3			0.4											3		0.9
Q. poeyana	22	11	15	31	35	9	3	20	13	10	6		33	3	4	7	11	5	15
Q. polygona		2						0.8						0.4	3			0.7	0.6
Q. sabulosa	3	3	0.3	0.3			4	15	0.6						1	2	3	0.5	7
Q. seminulum	3	0.6	0.6	4	3		0.5	2	2					1			2	1	5
Q. subpoeyana	2	14	1	0.7			2	3	2								1	0.5	1
Q. tenagos		0.6																	0.9
Spiroloculina antillarum	0.6																		
S. eximia	0.3																		
Triloculina bassensis	0.3	3	0.3	0.3	3	0.4								0.4			1		0.3
T. bermudezi	9	5	3	14	7	39	23	19	8	27	12		33	28	20	37	28	33	22
T. linneiana	6	3	2	3	10	3	5	3	5	3				2	3	5	3	9	6
T. oblonga	0.3	0.9	0.3	1		2	5	4		3			17		1		3		
T. rotunda	3	2	0.6	3	6			0.8	2	3				0.4			1	1	2
T. sidebottomi																			
T. trigonula	0.3		0.3																
Hauerina bradyi	3	5	5	1	1	21	34	2	17	20	76			33	35	12	13	24	6
Archaias angulatus		4	0.6															0.2	2
Fissurina cf. F. lucida																			
Buliminella elegantissima																			
Bolivina lanceolata	1																		
B. lowmani	0.3																		
B. striatula																			
Discorbis floridana	2	0.3		0.3		4	0.5	2	1	7				5	1			2	3
D. nitida		1																	
D. rosacea		0.6																	
Planorbulina mediterranensis																			
Ammonia beccarii		4	1	0.3	1				1					0.4		2	0.8	0.7	
A. translucens	5			7	10			0.8								2	1		
Elphidium advenum																		0.2	
E. galvestonense		4	2					2	0.6							2	1	0.5	0.3
E. poeyanum	2	0.6						0.8						1	1		0.8	0.5	0.3
E. sagrum																			
Nonion depressulum																			
N. grateloupi																			
DEPTH (meters)	1.2	2.0	2.3	0.9	2.1	2.4	2.6	2.4	2.4	2.4	2.3	1.8	2.0	2.6	2.4	2.0	1.8	2.4	2.3
TEMPERATURE (C)	32.1	31.1	32.1	31.9	31.6	32.0	31.4	31.7	31.0	30.8	30.9	31.1	31.1	31.3	31.4	31.4	31.6	31.6	31.8
SALINITY (‰)	26.2	26.5	26.7	26.4	25.8	26.2	26.4	26.3	26.1	26.7	26.3	25.6	25.8	25.3	26.2	25.4	28.9	25.9	25.6
pH	7.8	7.9	8.2	7.9	7.3	8.2	7.8	7.9	7.6	7.8	8.1	7.9	7.9	8.0	7.9	8.2	8.0	8.2	8.9
Eh (mv)	92	234	253	6	-121	76	192	36	17	-3	103	109	74	89	30	175	236	244	69
SAND (%)	25	74	52	33	18	42	23	24	43	37	32	12	20	24	12	38	34	6	44
SILT (%)	45	13	19	40	45	29	32	63	25	44	23	29	7	38	25	10	40	53	28
CLAY (%)	30	13	29	27	37	29	45	13	32	19	45	59	73	38	63	52	26	41	28

TABLE 2. Faunal composition in percent of August 17th, 1962 collection.

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
NUMBER OF SPECIMENS	245	388	265	233	25	317	162	30	179	55	12	4	81	18	78	55	201	931	229
Ammodiscus incertus																			
Glomospira charoides				0.8	4		1											0.3	
Ammobaculites dilatatus			2			0.6													
A. exiguus	0.4																		
Schenckiella occidentalis	3	0.2	0.7	0.4	8	0.3	7	7	2		8		1						
Clavulina tricarinata		0.2		9															
Valvulina oviedoiana (Group 1)	1	3	0.7	3									1						
V. oviedoiana (Group 2)	0.4	3		0.4															0.4
Cyclogyra involvens	0.4		0.7			1			2							2		0.3	
Nodobacularisella cassis						0.3													
Miliolinella circularis	1	5	2	7		11	15		12				5	22	26	16	10	31	2
M. fichteliana				0.4													0.5		
M. labiosa		0.5																	
M. obliquinoda				2		0.3	0.6											0.5	
M. suborbicularis																			
Massilina secans			0.4																
Pyrgo subsphaerica																			
Quinqueloculina agglutinans	0.4	3	2			0.3											0.5		
Q. bosciana	26	7	11	12	12	8	7	13	36	34	8	75	28		11	24	7	6	47
Q. laevigata	9	16	12	8	20	9	10	7	4	4		25	15	5	5	14	2	4	10
Q. lamarckiana		4	6	0.4					0.5								6	0.1	3
Q. poeyana	15	13	35	9	16	6	10	10	11	36	33		6	17	5	5	28	8	24
Q. polygona		1											1				2		
Q. subulosa	2	0.8	1			0.3	4	43		4						4	14	0.3	4
Q. seminulum	8	2	0.4	3	8	2	2		2	4	8		7				2	2	0.9
Q. subpoeyana	0.4	6	2	2				3	0.5	2			1				5	1	1
Q. tenagos			0.4										1					0.1	
Spiroloculina antillarum																			
S. eximia																			
Triloculina bassensis	0.4	1	1			0.6			0.5				2				0.5		0.4
T. bermudezi	16	2	2	16	16	28	17	7	13	4	8		14	11	10	14	8	10	3
T. linneiana	0.8	2	4	1		1	6		3				6		3	4	2	5	0.9
T. oblonga	1	1		0.4		0.3	1		0.5	4							0.5		
T. rotunda	2	1	2	2	4	0.6	0.6			4			1			5	1		
T. sidebottomi		0.2																	
T. trigonula		0.2		0.4										5			0.5		
Hauerina bradyi	6	6	2	4		25	11		13	5	25		5	39	32	11	5	27	2
Archaias angulatus		8	4															0.2	
Fissurina cf. F. lucida	0.4						0.6								4		0.5	0.3	
Buliminella elegantissima																			
Bolivina lanceolata		0.5																	
B. lowmani																			
B. striatula																			
Discorbis floridana	0.4	0.2		3	4	4	2						1		3			1	
D. nitida			0.4																
D. rosacea		1	0.4																
Planorbulina mediterranensis																			
Ammonia beccarii		2	1				0.6	3									1	0.1	
A. translucens	2	1	1	1	13	8		7			8		2				0.5		0.4
Elphidium advenum																			
E. galvestonense		3	2	0.4											1		0.5	0.5	0.4
E. poeyanum	1	2	1	0.4			2										1	0.8	
E. sagrum																			
Nonion depressulum			0.4				0.6												
N. grateloupi		0.5																	
DEPTH (meters)	1.2	2.0	2.3	0.9	2.1	2.4	2.6	2.4	2.4	2.4	2.3	1.8	2.0		2.6	2.4	2.0	1.8	
TEMPERATURE (C)	30.3	30.1	30.0	30.4	30.7	30.4	30.7	31.0	31.0	30.7	31.0	31.4	30.9		30.8	30.5	31.2	30.4	30.9	31.3
SALINITY (‰)	27.1	26.6	26.9	26.4	26.1	26.1	26.8	27.0	27.0	26.8	26.5	26.1	26.4		25.9	26.4	26.5	26.6	26.6	25.9
pH	7.6	8.0	7.7	7.7	7.6	7.6	8.0	7.8	7.8	7.7	8.0	7.3	8.1		7.9	7.9	8.1	8.2	8.2	7.9
Eh (mv)	113	180	230	80	-97	-37	114	116	224	165	60	14	137		66	119	209	250	225	94
SAND (%)	15	88	46	21	13	36	36	25	70	26	18	9	38		14	2	41	34	6	32
SILT (%)	25	6	36	59	52	37	40	38	24	37	47	55	31		43	35	15	28	31	54
CLAY (%)	60	6	18	20	35	27	24	37	6	37	35	36	31		43	63	44	38	63	14

TABLE 3. Faunal composition in percent of August 20th, 1962 collection.

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
NUMBER OF SPECIMENS	170	532	518	122		347	232	17	80	138	30	9	399		12	28	23	305	1250
Ammodiscus incertus			0.8																
Glomospira charoides		0.2	0.8				0.4												0.1
Ammobaculites dilatatus																			
A. exiguus																			
Schenckiella occidentalis	3		0.2	5															
Clavulina tricarinata	1	0.4		5															
Valvulina oviedoiana (Group 1)	25	4	2										0.2						0.4
V. oviedoiana (Group 2)	2	2																	0.2
Cyclogyra involvens			0.2				2						0.2						0.2
Nodobacularielle cassis																			
Miliolinella circularis	0.6	2	5	5		5	3		5	6	3		2					0.6	0.6
M. fichteliana																			
M. labiosa													0.2						
M. obliquinoda	2	0.6	0.6				0.4				3		2						1
M. suborbicularis																			
Massilina secans																		4	0.1
Pyrgo subsphaerica																			
Quinqueloculina agglutinans		0.4	0.2																0.1
Q. bosciana	6	6	21	9		6	10	6	39	35	13	11	58		58	36	52	13	30
Q. laevigata	3	20	30	12		29	34	53	14	31	13	89	21		33	14		7	28
Q. lamarckiana		3	1															1	0.6
Q. poeyana	9	5	9	22		1	5	29	22	4	17		0.2				9	12	19
Q. polygona		0.7	0.6															0.3	
Q. sabulosa	8	3	1	2		0.3	3			0.7			1			4			2
Q. seminulum	2	2	1	3		0.3			1	0.7	3						4	0.6	1
Q. subpoeyana	5	28	3	2		0.3	3		4	0.7	3					21	17	4	2
Q. tenagos		0.4																	0.1
Spiroloculina antillarum	0.8																		
S. eximia																			
Triloculina bassensis		1	0.6			0.3	0.4											2	1
T. bermudezi	8	2	4	9		41	16		9	8	27		9			4	9	12	2
T. linneiana	0.6	1	4	5		3	5			3			0.2			7	4	3	4
T. oblonga	2	0.4	1	2		0.3							0.5			4			
T. rotunda		0.6		4					1	0.7			0.2					2	0.6
T. sidebottomi																			
T. trigonula	0.6		0.2																
Hauerina bradyi	3	3	3	0.8		11	17		5	9	17		3		8	7		37	6
Archaias angulatus		4	1										0.2			4		1	0.1
Fissurina cf. F. lucida	2	0.2	0.4															0.3	
Buliminella elegantissima		0.2																	
Bolivina lanceolata	0.6																		
B. lowmani																			
B. striatula																			0.1
Discorbis floridana	1	0.6	0.6	5		0.9	0.4	6										0.6	
D. nitida		4	1																
D. rosacea		3	5																
Planorbulina mediterranensis																			
Ammonia beccarii		0.6	0.6																
A. translucens	10			8				6		0.7						4			
Elphidium advenum																			
E. galvestonense		0.4	0.8																0.2
E. poeyanum	5	0.6	2																0.2
E. sagrum																			
Nonion depressulum																			
N. gratelaupi																			
DEPTH (meters)	1.2	2.3	2.4	1.5		2.7	2.7	2.4	2.6	2.6	2.6	1.5	2.4		2.4	1.8	1.5	2.6	2.6
TEMPERATURE (C)	20.0	19.5	20.0	19.5		20.2	20.3	20.5	20.5	20.7	21.0	20.9	20.7		20.9	21.1	21.2	21.3	22.0
SALINITY (‰)	38.6	40.0	40.8	39.3		40.0	39.3	39.3	39.3	40.8	39.3	38.6	38.6		38.6	39.3	39.3	37.9	38.6
pH	7.8	7.9	7.8	7.9		7.7	8.0	8.0	8.0	7.7	7.8	7.0			7.8	7.9	8.0	7.8	7.6
Eh (mv)				-100		-130	-140	-140	-70	-50	-10	-100			-100	-100	-90	-110	-30
SAND (%)	25	74	70	44		35	34	18	41	40	29	18	44		26	45	41	41	52
SILT (%)	32	11	12	29		40	44	35	38	39	47	42	39		54	35	47	40	28
CLAY (%)	43	15	18	27		25	22	47	21	21	24	40	17		20	20	12	19	20

TABLE 4. Faunal composition in percent of February 9th, 1963 collection.

TABLE 5. Observed ranges of environmental parameters in Buttonwood Sound.

PARAMETER AND PERIOD	OBSERVED RANGE	VARIATION
Depth	0.9 - 2.7 m	1.8 m
Temperature		
Summer	28.1 - 32.4°C	4.3°C
Winter	19.5 - 22.0°C	2.5°C
Total	19.5 - 32.4°C	12.9°C
Salinity		
Summer	25.3 - 29.6	4.3
Winter	37.9 - 40.8	2.0
Total	25.3 - 40.8	15.5
pH		
Summer	6.9 - 8.9	2.0
Winter	7.0 - 8.0	1.0
Total	6.9 - 8.9	2.0
Eh		
Summer	(-210 - +382 mv)*	(592 mv)*
Winter	-140 - -10 mv	130 mv
Sediment Size		
Sand	2 - 88%	86%
Silt	5 - 71%	66%
Clay	6 - 63%	57%

* Summer Eh potentials not reliable due to measurement techniques.

TABLE 6a. Comparison of faunal composition from August 14th, 1962 samples in terms of proportional contribution of five reference samples. (Roman numerals refer to text figures 4a-e.)

STATION	I	II	III	IV	V
1	0.000	1.000	0.000	0.000	0.000
2	0.000	0.000	1.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000
4	0.560	0.913	0.118	0.174	0.122
5	0.842	0.073	0.111	0.168	-0.175
6	0.780	0.508	-0.018	0.798	0.343
7	0.552	0.065	0.146	0.417	-0.158
8	0.000	0.000	0.000	0.000	0.000
9	0.201	0.058	-0.029	0.127	0.984
10	0.000	0.000	0.000	0.000	0.000
11	0.179	-0.146	-0.012	0.748	0.130
12	0.146	0.570	0.056	0.000	0.556
13	0.000	0.000	0.000	0.000	0.000
14	0.000	0.000	0.000	1.000	0.000
15	-0.023	-0.064	-0.016	0.874	0.275
16	0.000	0.000	0.000	0.000	0.000
17	0.123	-0.002	0.121	0.319	0.074
18	0.000	0.000	0.000	0.000	0.000
19	1.000	0.000	0.000	0.000	0.000

TABLE 6b. Comparison of environmental parameters from August 14th, 1962 stations in terms of proportional contribution of the reference station. (Roman numeral refers to text figure 5.)

STATION	I
1	0.967
2	1.000
3	0.459
4	0.000
5	0.279
6	0.393
7	0.556
8	0.847
9	0.852
10	0.696
11	0.732
12	0.435
13	0.619
14	0.450
15	0.461
16	0.801
17	0.915
18	0.818
19	0.793

TABLE 7a. Comparison of faunal composition from August17th, 1962 samples in terms of proportional contribution of five reference samples. (Roman numerals refer to text figures 6a-e.)

STATION	VI	VII	VIII	IX	X
1	-0.410	0.600	0.242	-0.152	0.049
2	0.000	0.000	0.000	0.000	1.000
3	0.000	0.000	0.000	0.000	0.000
4	0.033	0.642	0.006	-0.028	-0.018
5	0.000	1.000	0.000	0.000	0.000
6	0.557	-0.008	0.072	0.098	-0.009
7	0.458	-0.113	0.257	0.705	0.045
8	0.000	0.000	0.000	0.000	0.000
9	-0.148	0.217	0.740	0.231	0.060
10	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	1.000	0.000
12	0.000	0.000	1.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000
14	0.299	0.024	0.512	0.413	0.013
15	0.375	-0.052	0.315	0.656	-0.027
16	1.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000
18	0.727	0.813	0.425	0.248	0.085
19	0.060	0.298	0.329	-0.255	0.073

TABLE 7b. Comparison of environmental parameters from August 17th, 1962 stations in terms of proportional contribution of the reference station. (Roman numeral refers to text figure 7.)

STATION	II
1	0.683
2	0.992
3	1.000
4	0.450
5	0.000
6	0.650
7	0.906
8	0.532
9	0.509
10	0.435
11	0.734
12	0.749
13	0.667
14	0.701
15	0.531
16	0.894
17	0.948
18	0.988
19	0.641

TABLE 8a. Comparison of faunal composition from August 20th, 1962 samples in terms of proportional contribution of four reference samples. (Roman numerals refer to text figures 8a-d.)

STATION	XI	XII	XIII	XIV
1	0.462	-0.524	0.210	0.069
2	0.000	0.000	0.000	0.000
3	0.165	0.218	0.968	0.605
4	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	1.000
6	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000
9	0.769	-0.165	0.232	-0.393
10	0.631	-0.004	0.837	0.231
11	0.000	0.000	0.000	0.000
12	1.000	0.000	0.000	0.000
13	0.570	-0.492	-0.120	-0.154
14	0.000	1.000	0.000	0.000
15	0.275	0.790	-0.228	-0.425
16	0.572	0.343	0.237	0.100
17	0.000	0.000	1.000	0.000
18	0.127	0.707	-0.115	-0.520
19	0.850	-0.025	0.606	0.083

TABLE 8b. Comparison of environmental parameters from August 20th, 1962 stations in terms of proportional contribution of the reference station. (Roman numeral refers to text figure 9.)

STATION	III
1	0.708
2	0.907
3	0.972
4	0.618
5	0.000
6	0.267
7	0.709
8	0.792
9	0.956
10	0.824
11	0.551
12	0.402
13	0.772
14	0.580
15	0.714
16	0.923
17	1.000
18	0.932
19	0.652

TABLE 9a. Comparison of faunal composition from February 9th, 1963 samples in terms of proportional contribution of three reference samples. (Roman numerals refer to text figures 10a-c.)

STATION	XV	XVI	XVII
1	0.000	0.000	0.000
2	0.000	0.000	0.000
3	0.000	0.000	0.000
4	0.000	0.000	0.000
6	0.000	0.000	0.000
7	-0.025	0.363	0.333
8	0.000	1.000	0.000
9	0.000	0.000	0.000
10	0.698	-0.090	0.082
11	-0.330	0.133	0.310
12	0.654	0.651	-0.065
13	0.822	-0.231	-0.141
15	1.000	0.000	0.000
16	0.000	0.000	0.000
17	0.298	-0.191	-0.206
18	0.000	0.000	1.000
19	-0.204	0.538	0.071

TABLE 9b. Comparison of environmental parameters from February 9th, 1963 stations in terms of proportional contribution to the reference station. (Roman numeral refers to text figure 11.)

STATION	IV
4	0.625
6	0.902
7	0.966
8	1.000
9	0.407
10	0.314
11	0.000
12	0.647
15	0.631
16	0.635
17	0.559
18	0.674
19	0.096

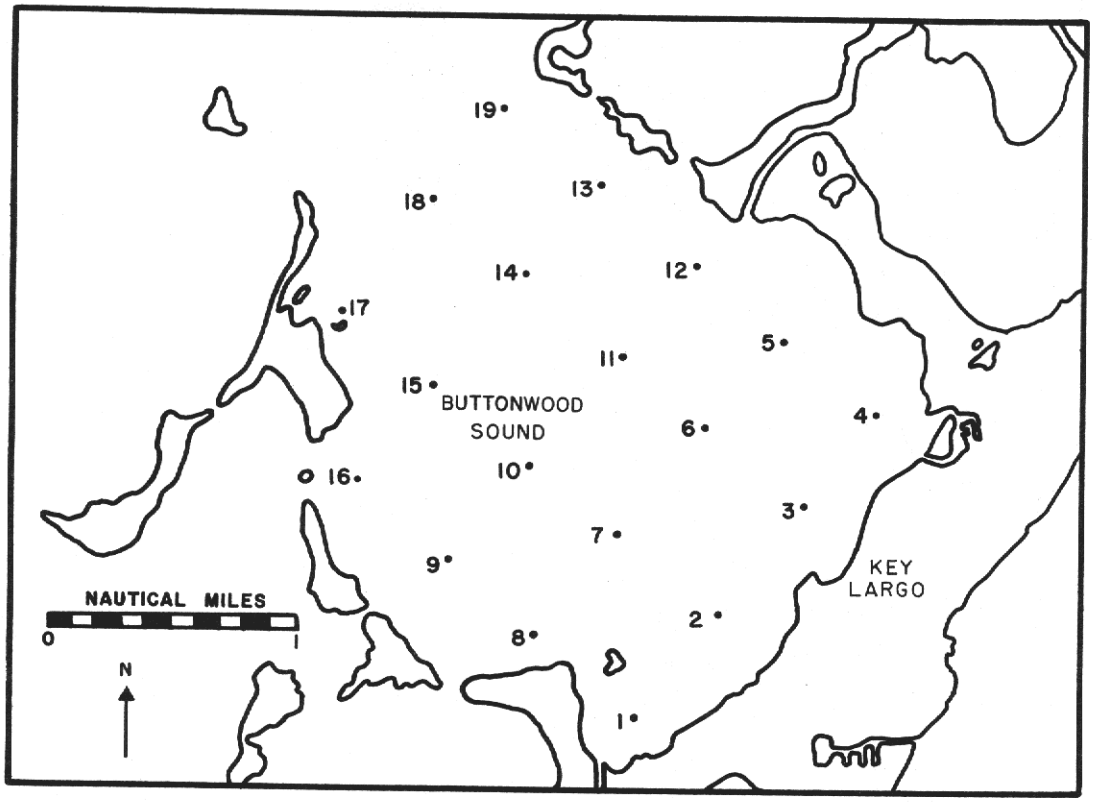

FIGURE 1. Station location

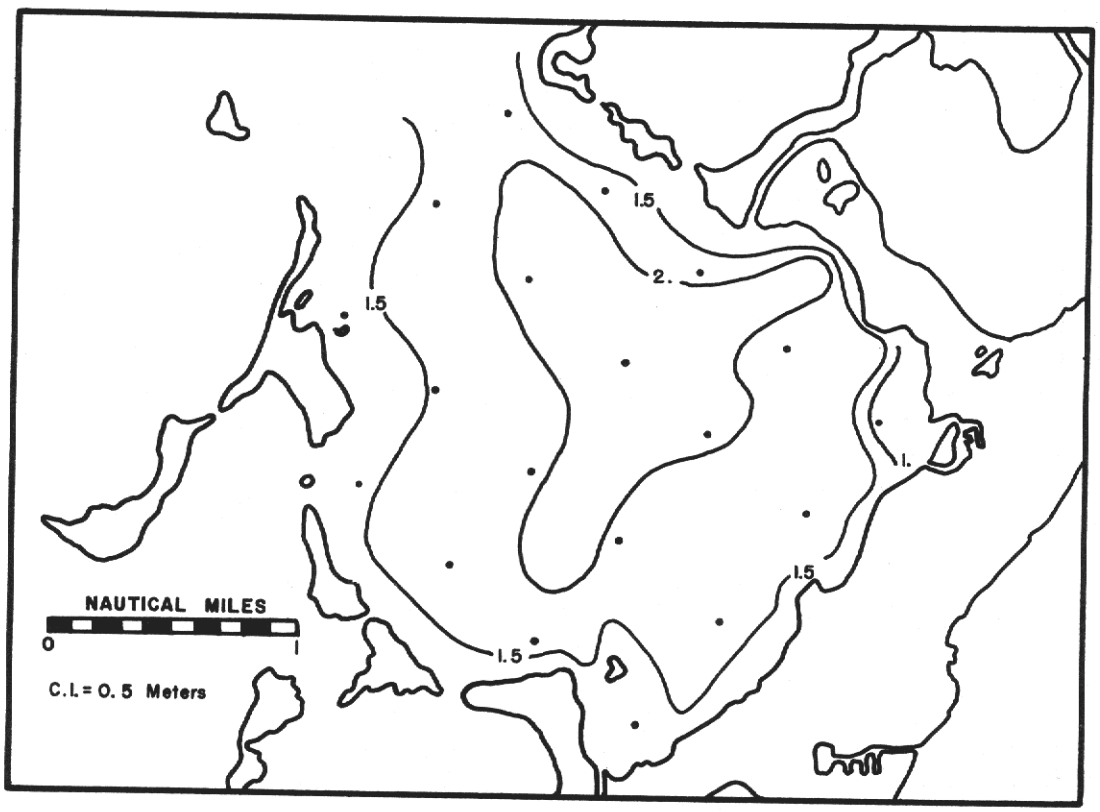

FIGURE 2. Bathymetry of Buttonwood Sound.

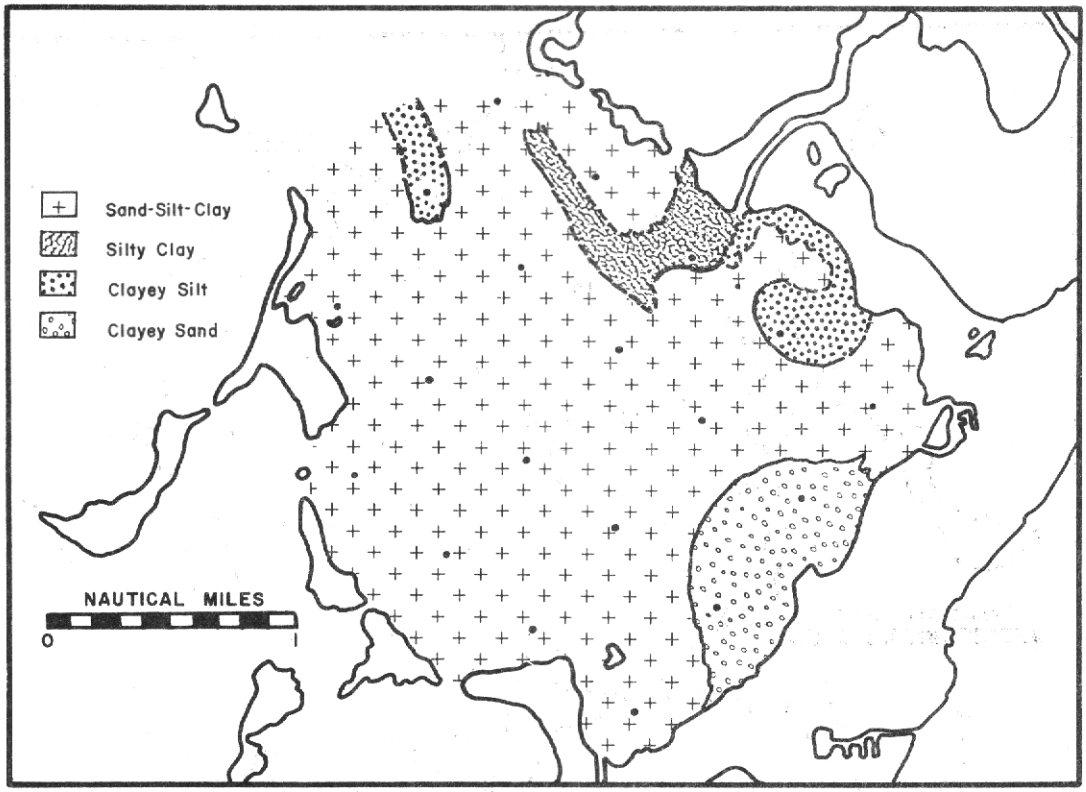

FIGURE 3. Sediment-size distribution map of Buttonwood Sound.

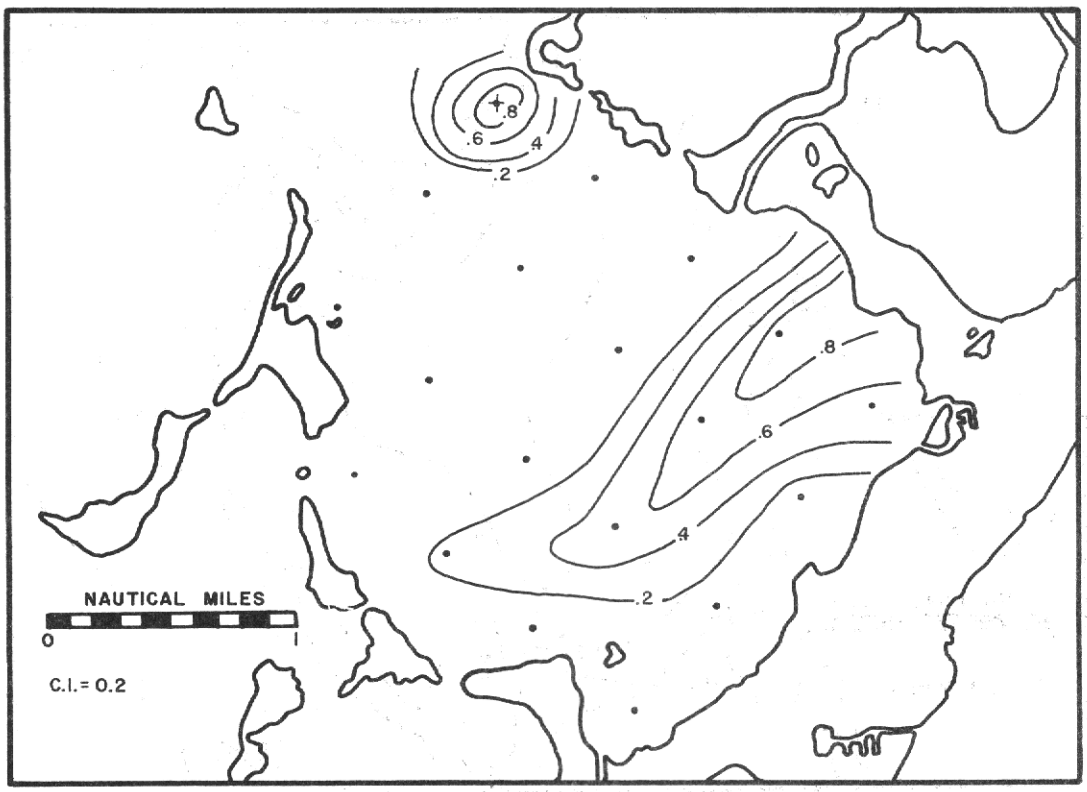

FIGURE 4a. Proportional contribution of Assemblage I, August 14th, 1962. (Reference sample indicated by +.)

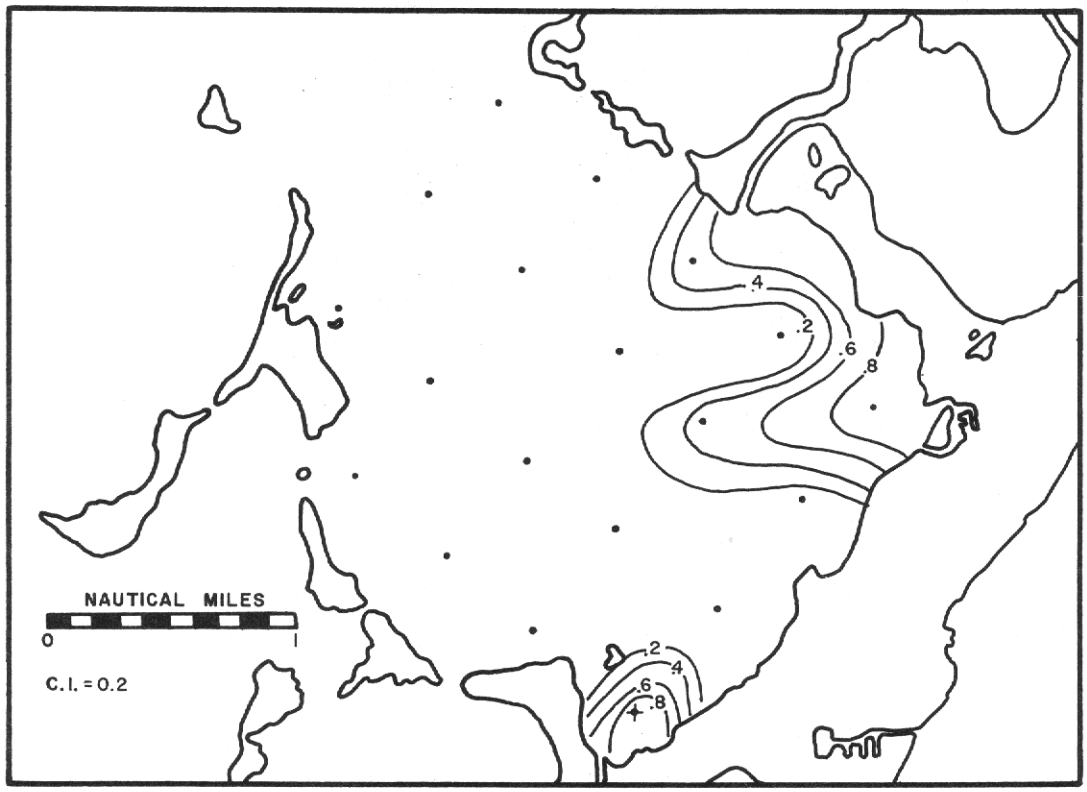

FIGURE 4b. Proportional contribution of Assemblage II, August 14th, 1962. (Reference sample indicated by +.)

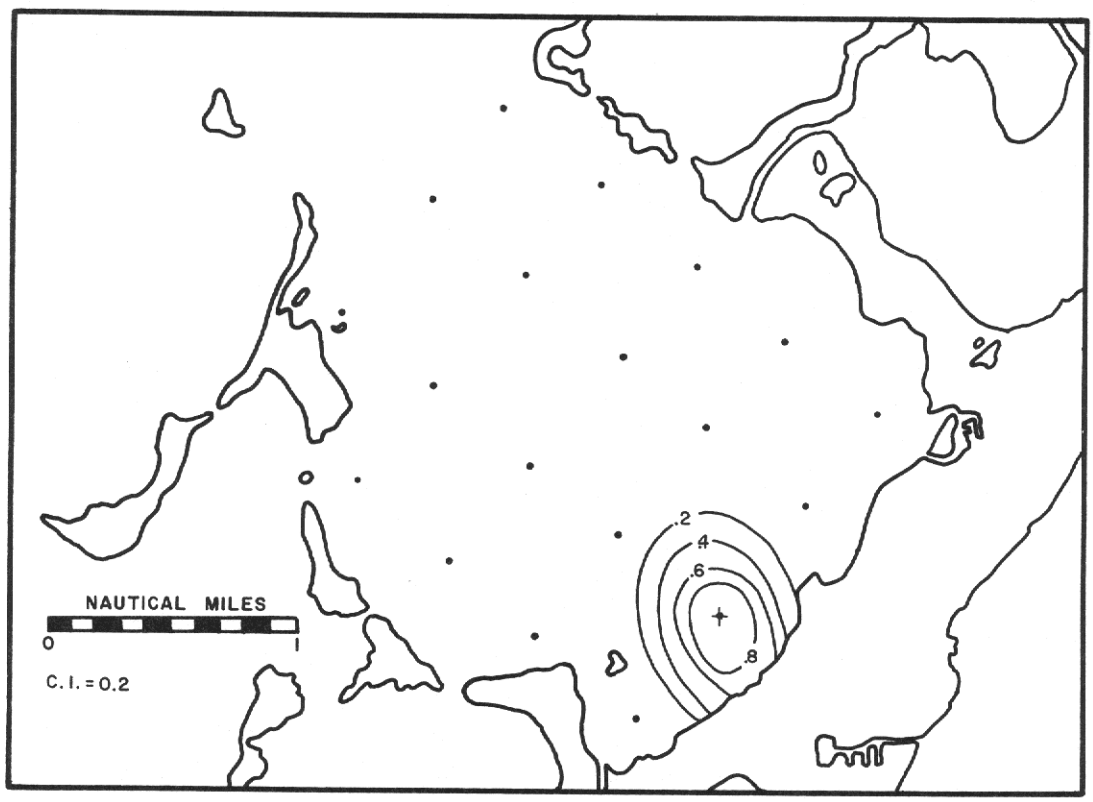

FIGURE 4c. Proportional contribution of Assemblage III, August 14th, 1962. (Reference sample indicated by +.)

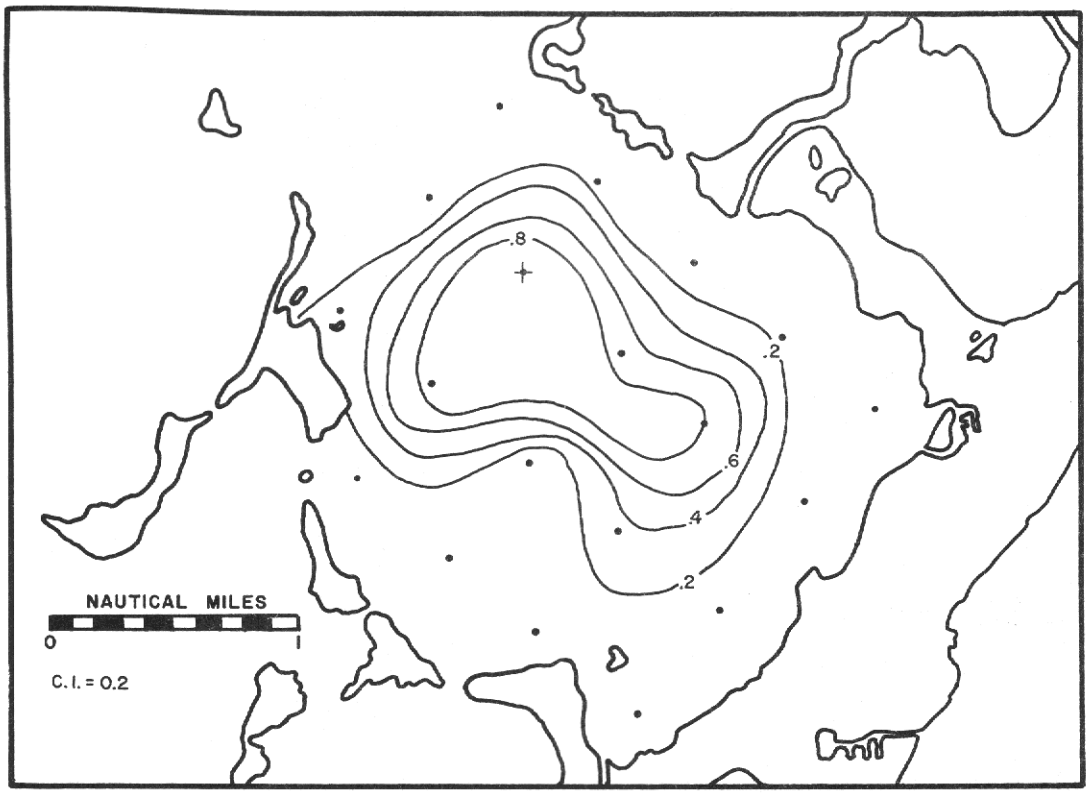

FIGURE 4d. Proportional contribution of Assemblage IV, August 14th, 1962. (Reference sample indicated by +.)

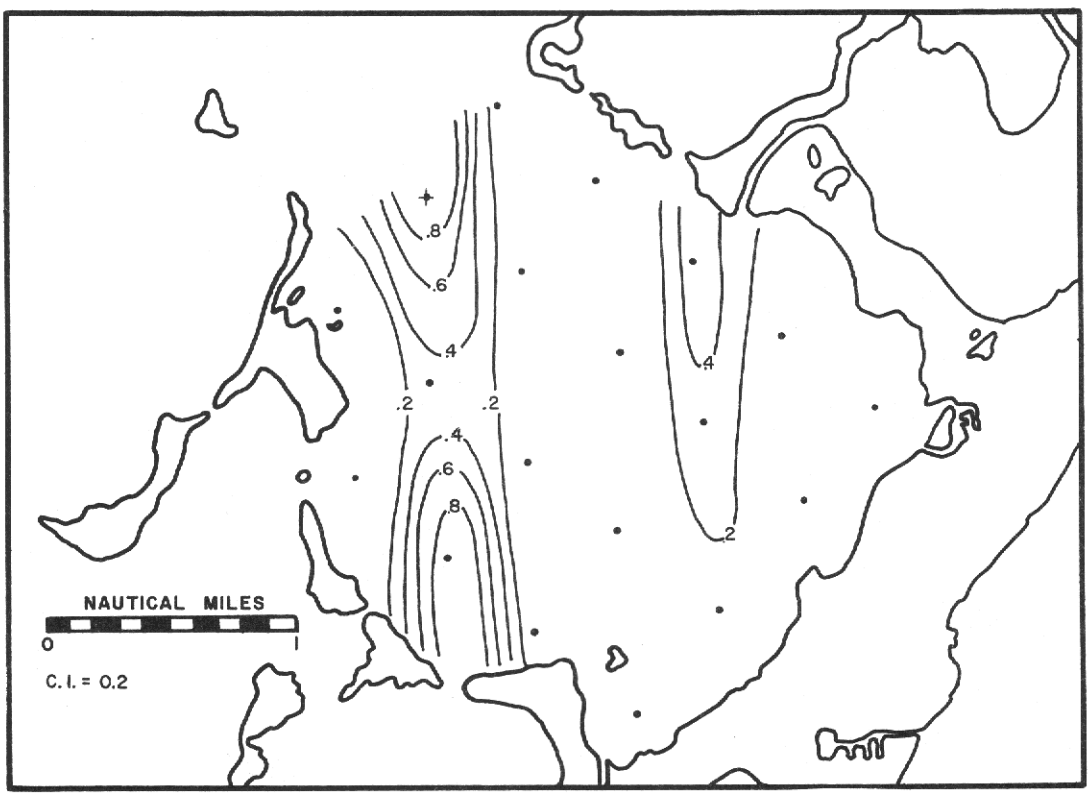

FIGURE 4e. Proportional contribution of Assemblage V, August 14th, 1962. (Reference sample indicated by +.)

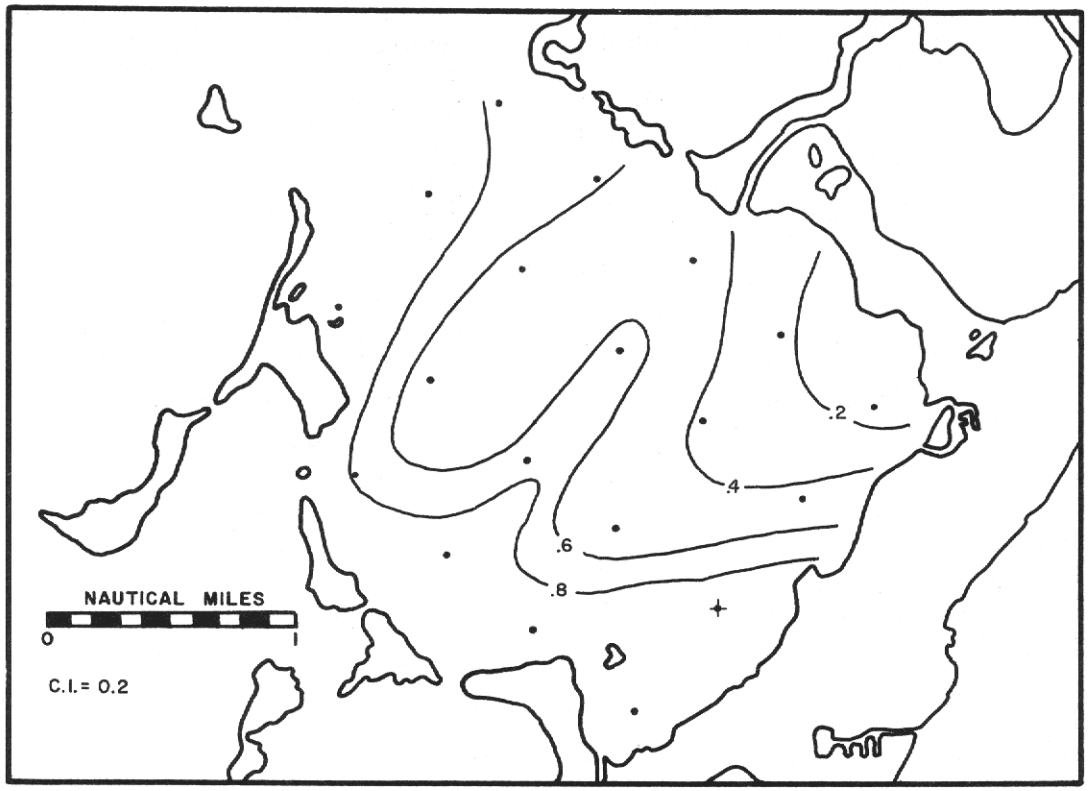

FIGURE 5. Proportional contribution of Environmental Model I, August 14th, 1962. (Reference station indicated by +.)

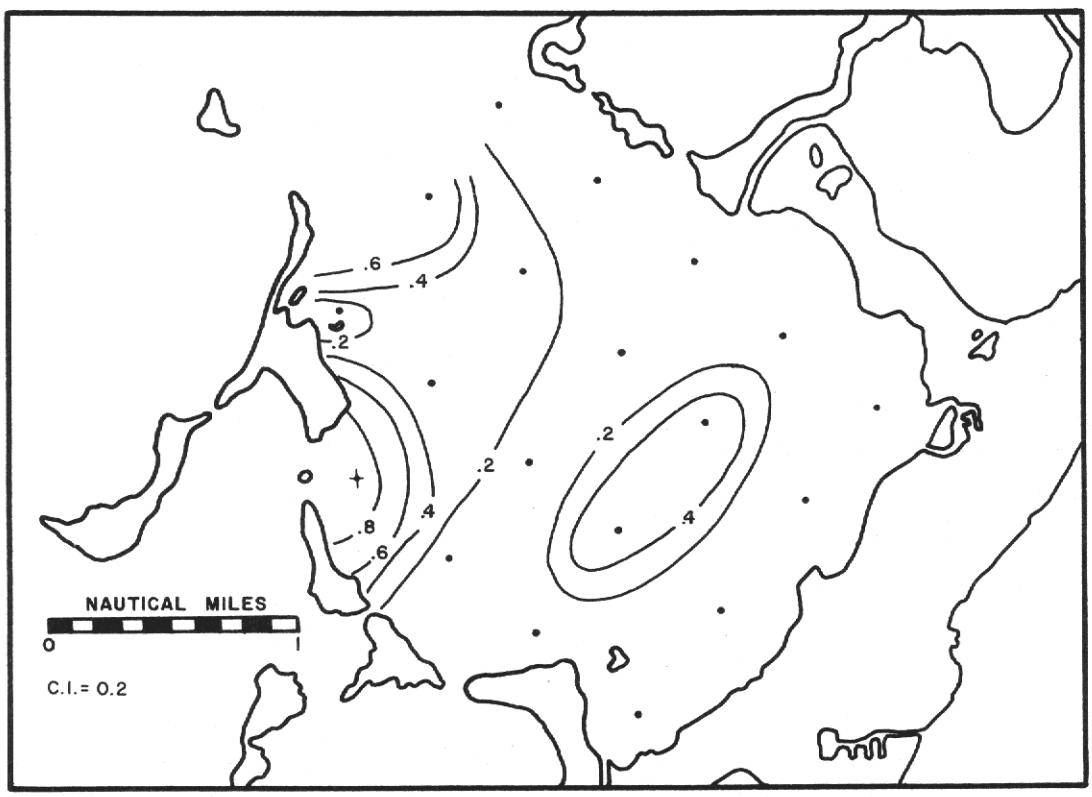

FIGURE 6a. Proportional contribution of Assemblage VI, August 17th, 1962. (Reference sample indicated by +.)

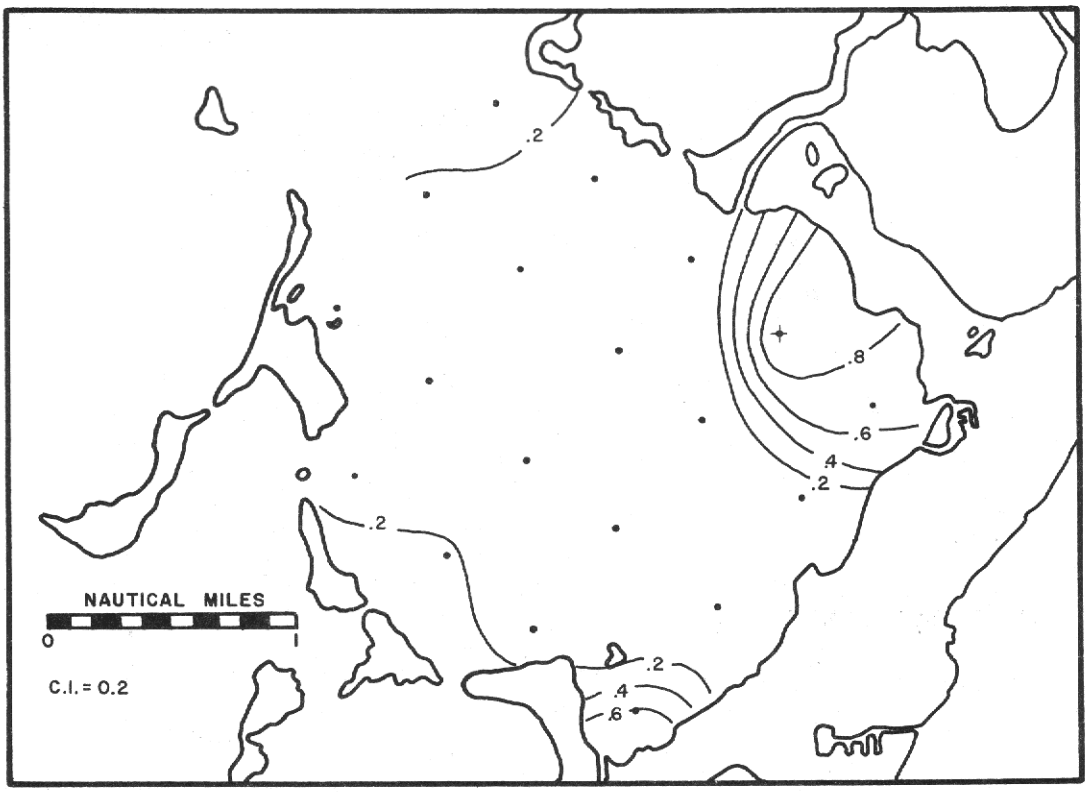

FIGURE 6b. Proportional contribution of Assemblage VII, August 17th, 1962. (Reference sample indicated by +.)

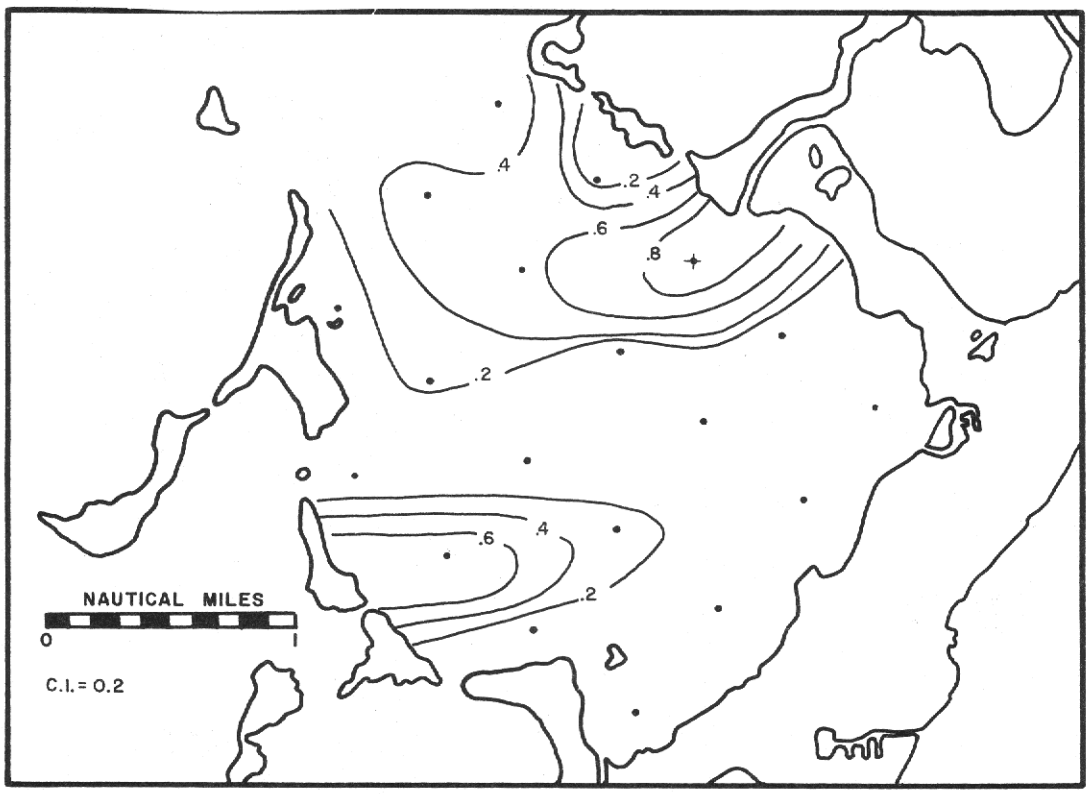

FIGURE 6c. Proportional contribution of Assemblage VIII, August 17th, 1962. (Reference sample indicated by +.)

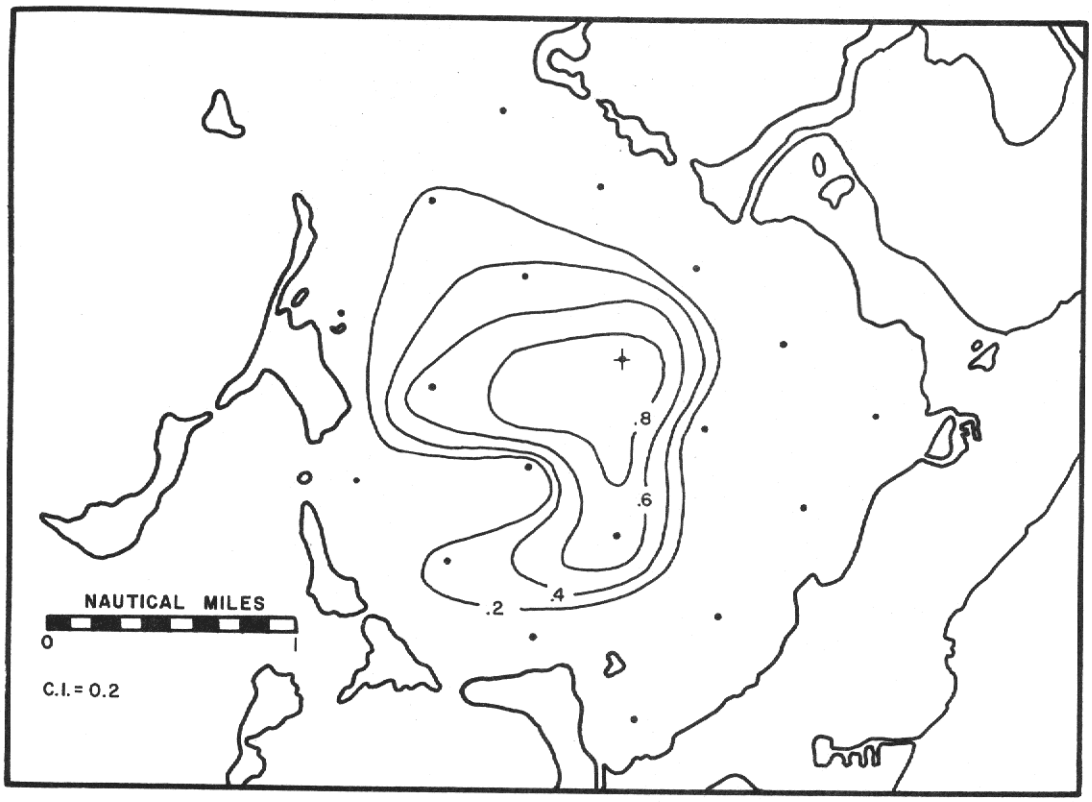

FIGURE 6d. Proportional contribution of Assemblage IX, August 17th, 1962. (Reference sample indicated by +.)

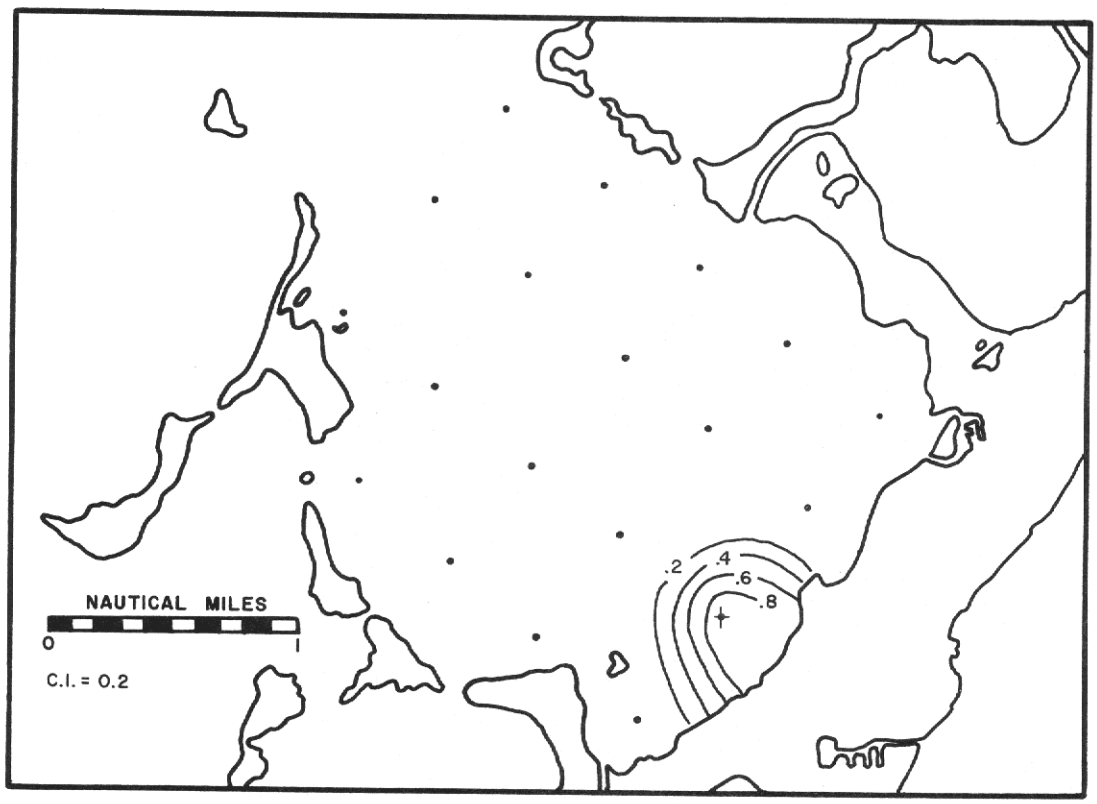

FIGURE 6e. Proportional contribution of Assemblage X, August 17th, 1962. (Reference sample indicated by +.)

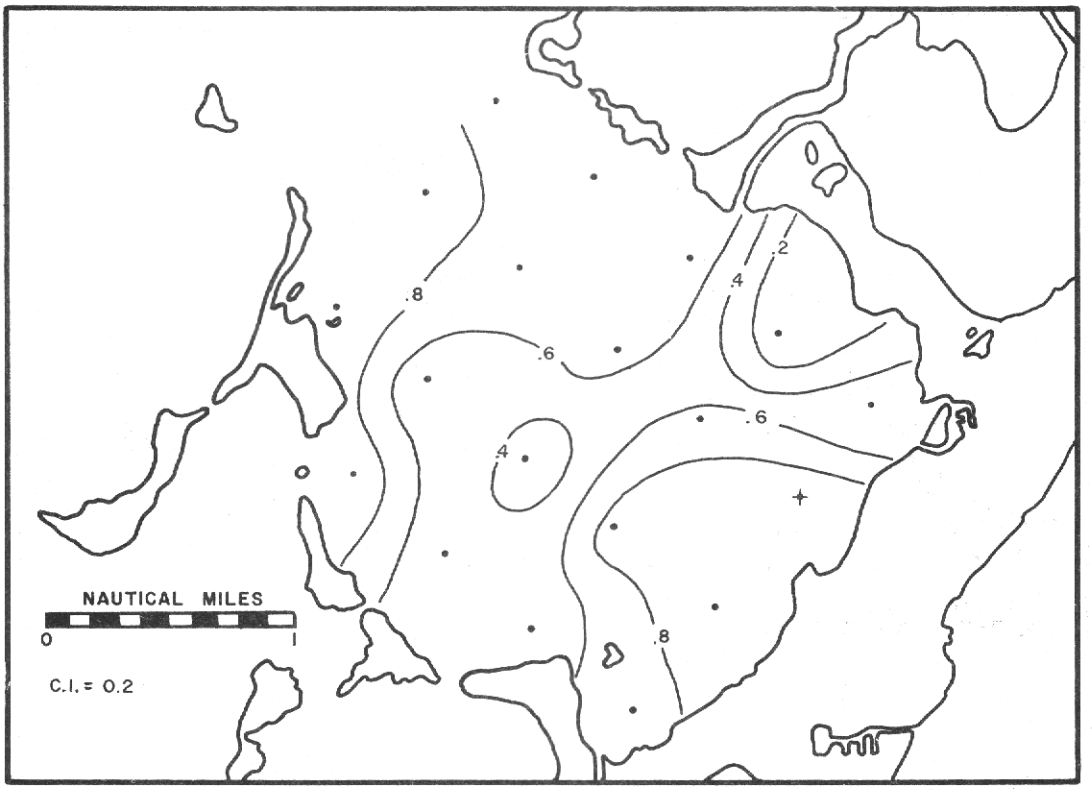

FIGURE 7. Proportional contribution of Environmental Model II, August 17th, 1962. (Reference station indicated by +.)

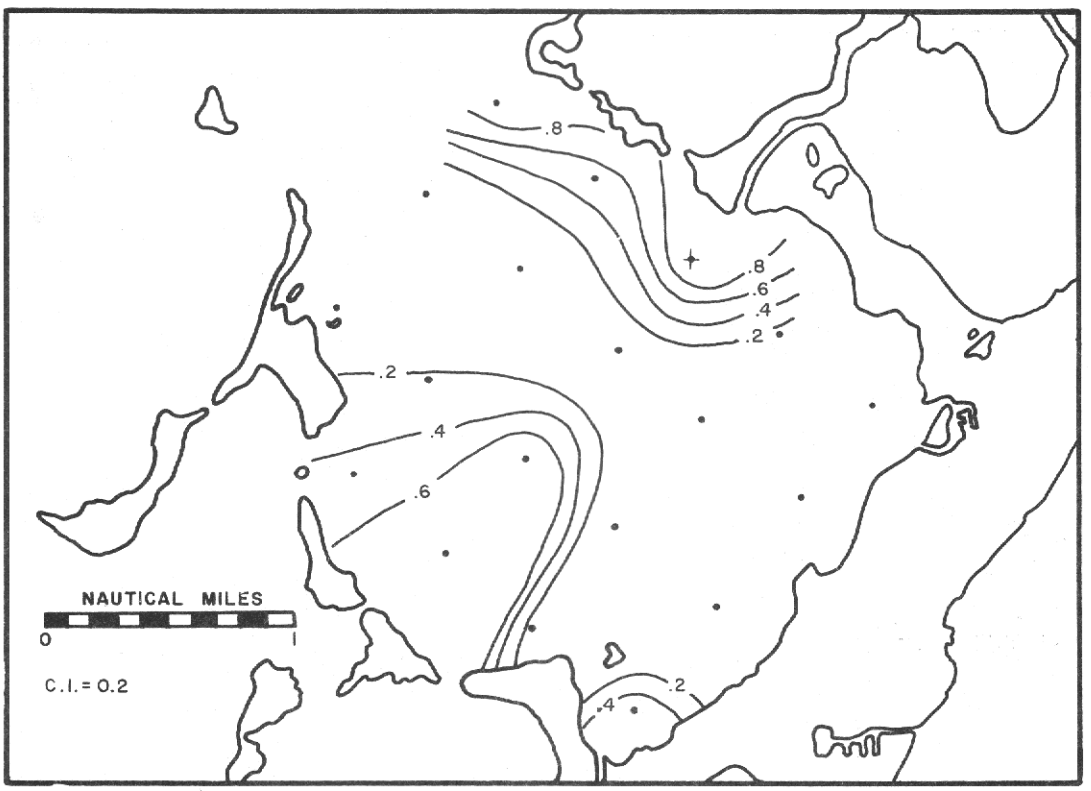

FIGURE 8a. Proportional contribution of Assemblage XI, August 20th, 1962. (Reference sample indicated by +.)

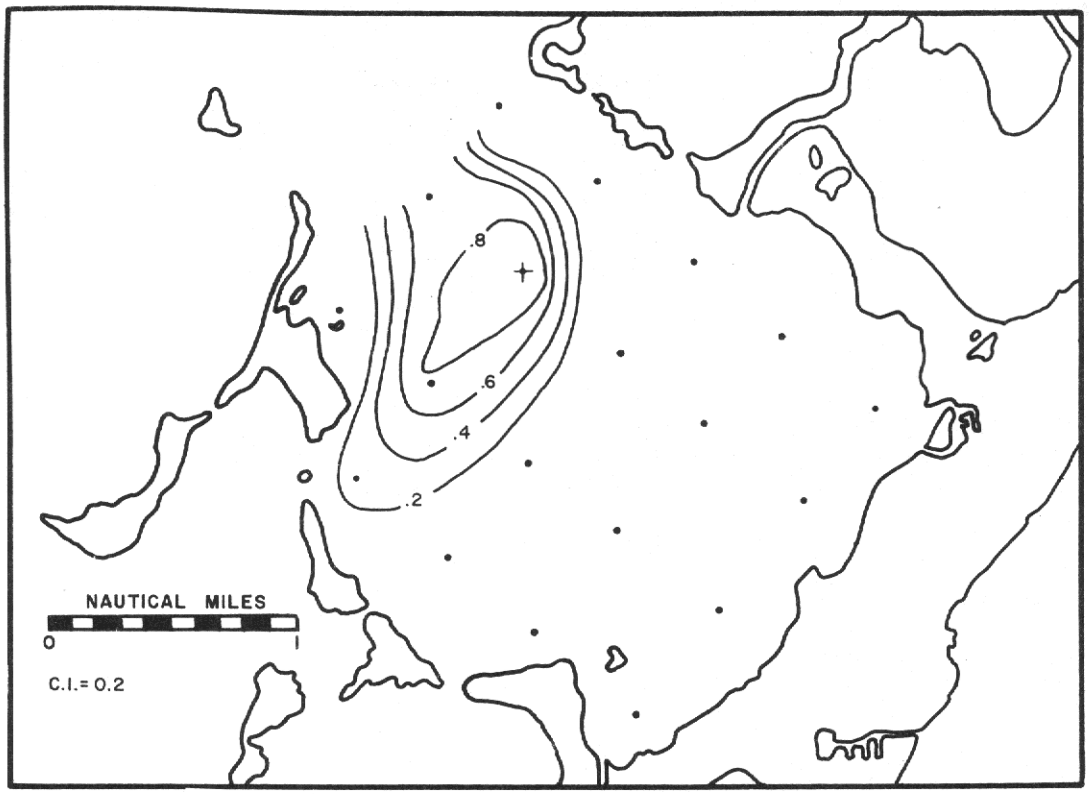

FIGURE 8b. Proportional contribution of Assemblage XII, August 20th, 1962. (Reference sample indicated by +.)

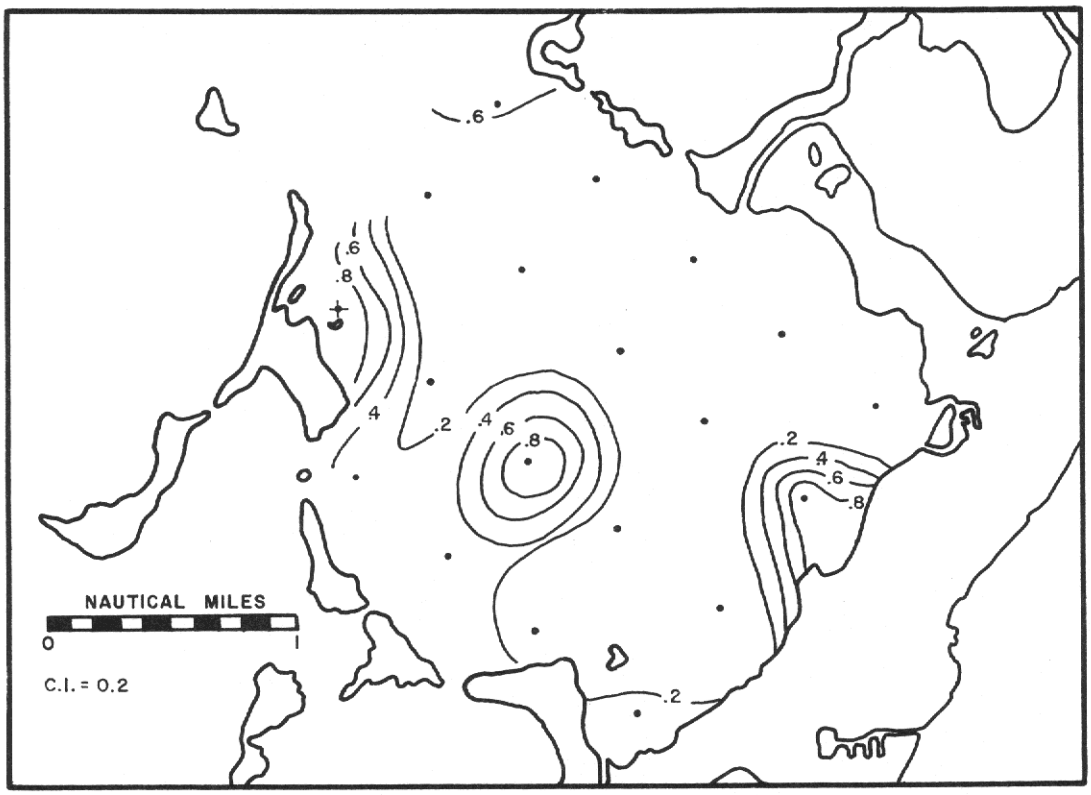

FIGURE 8c. Proportional contribution of Assemblage XIII, August 20th, 1962. (Reference sample indicated by +.)

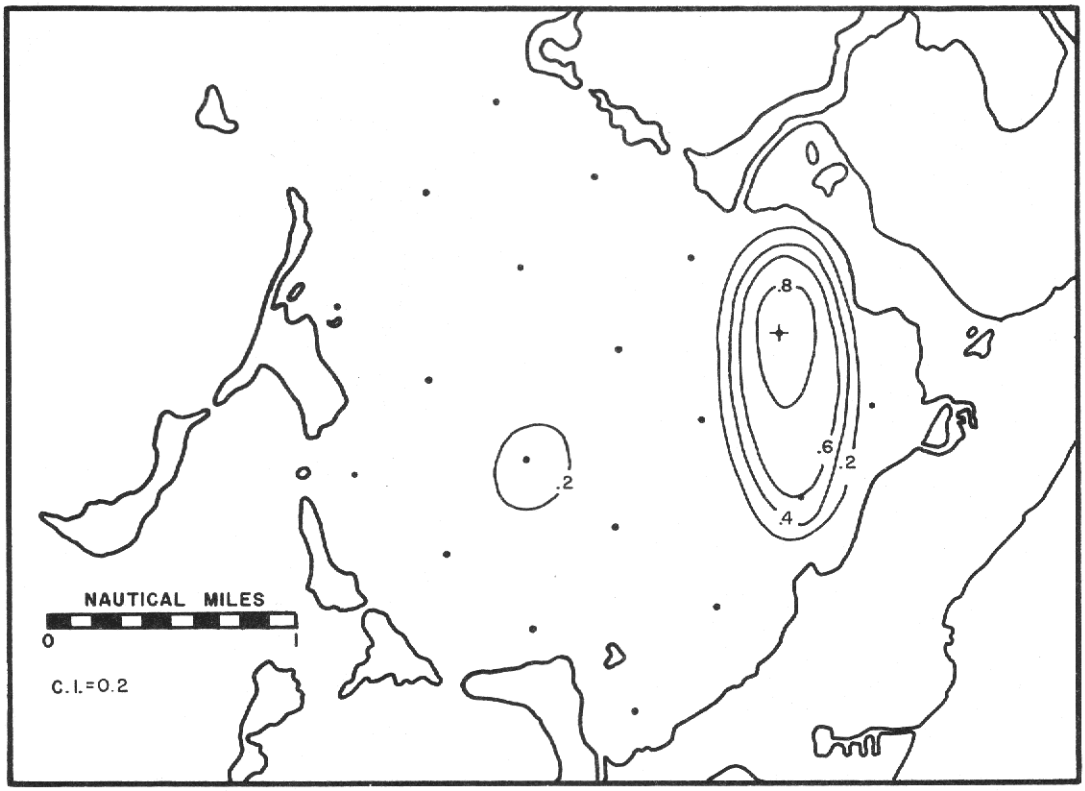

FIGURE 8d. Proportional contribution of Assemblage XIV, August 20th, 1962. (Reference sample indicated by +.)

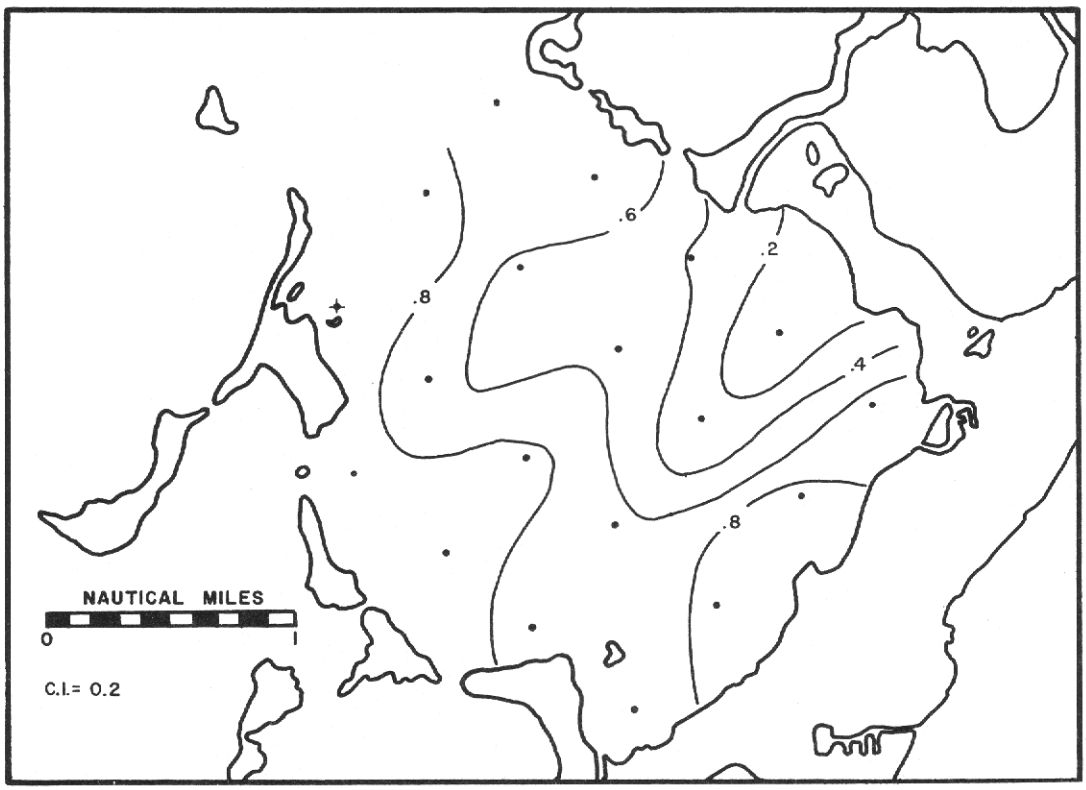

FIGURE 9. Proportional contribution of Environmental Model III, August 20th, 1962. (Reference station indicated by +.)

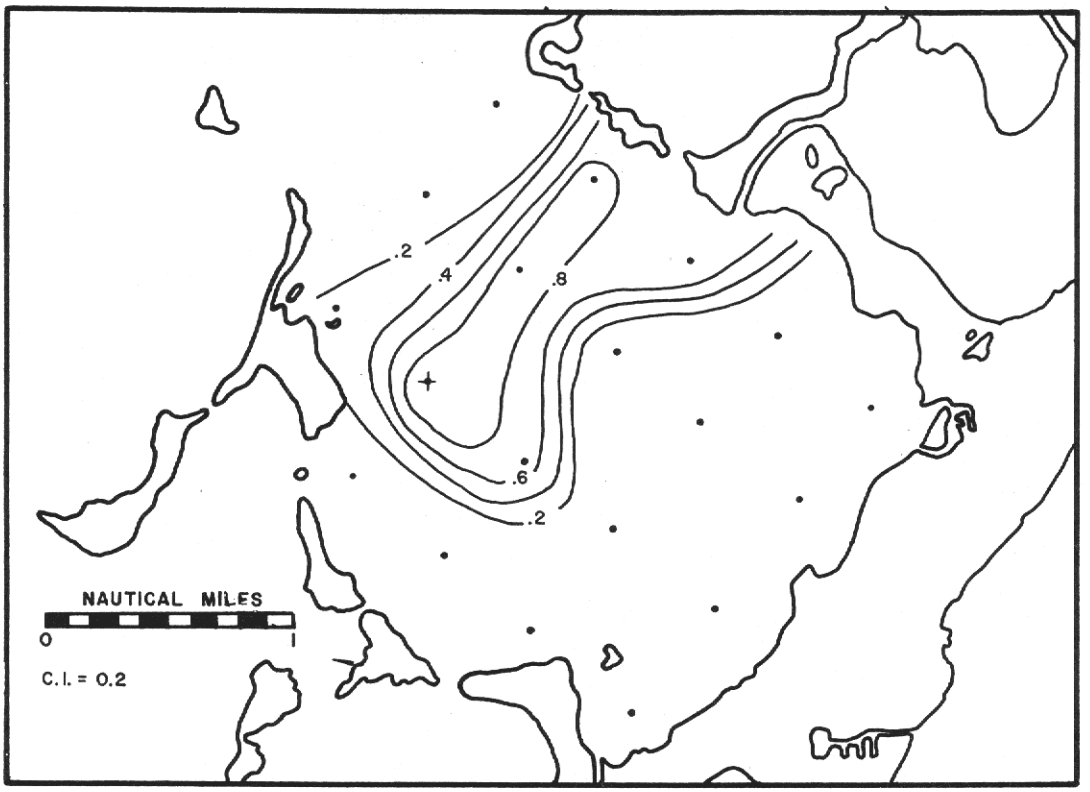

FIGURE 10a. Proportional contribution of Assemblage XV, February 9th, 1963. (Reference sample indicated by +.)

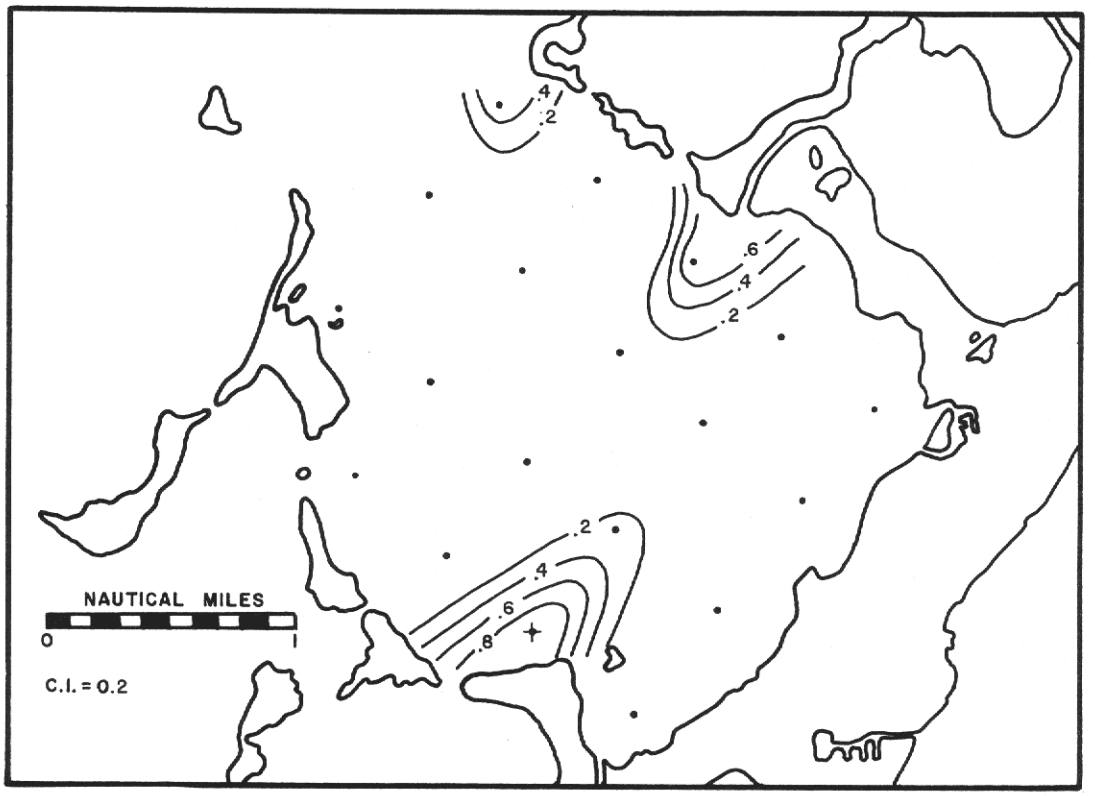

FIGURE 10b. Proportional contribution of Assemblage XVI, February 9th, 1963. (Reference sample indicated by +.)

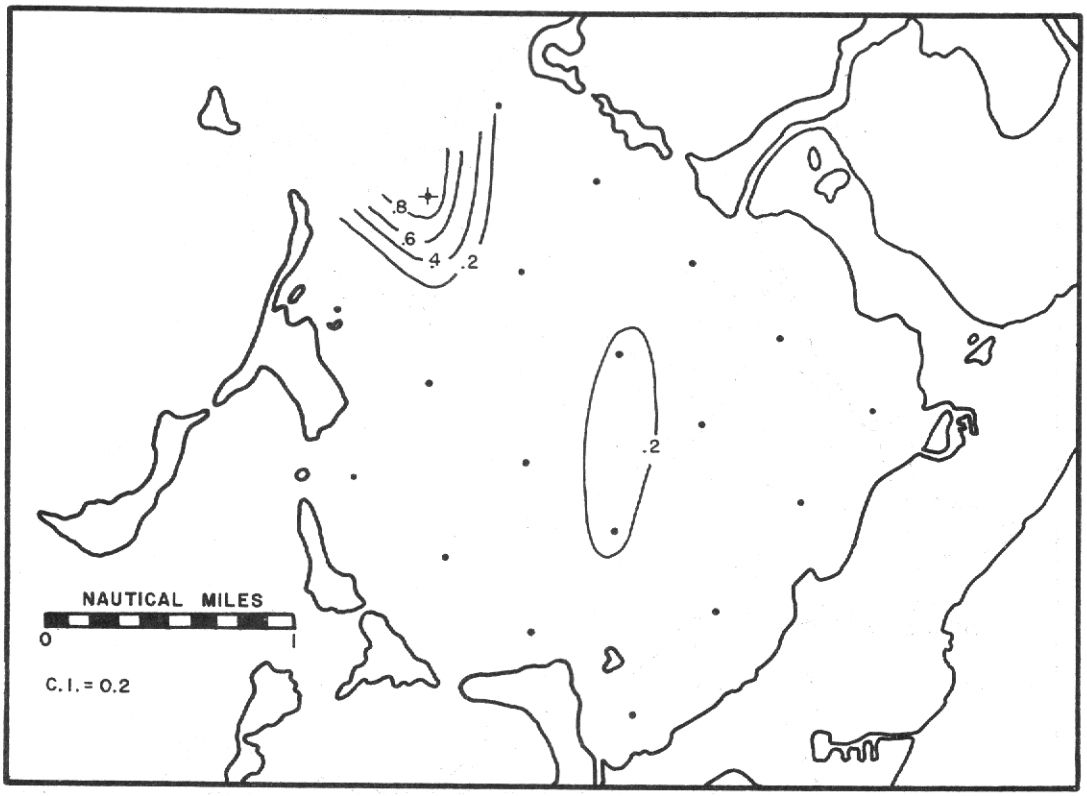

FIGURE 10c. Proportional contribution of Assemblage XVII, February 9th, 1963. (Reference sample indicated by +.)

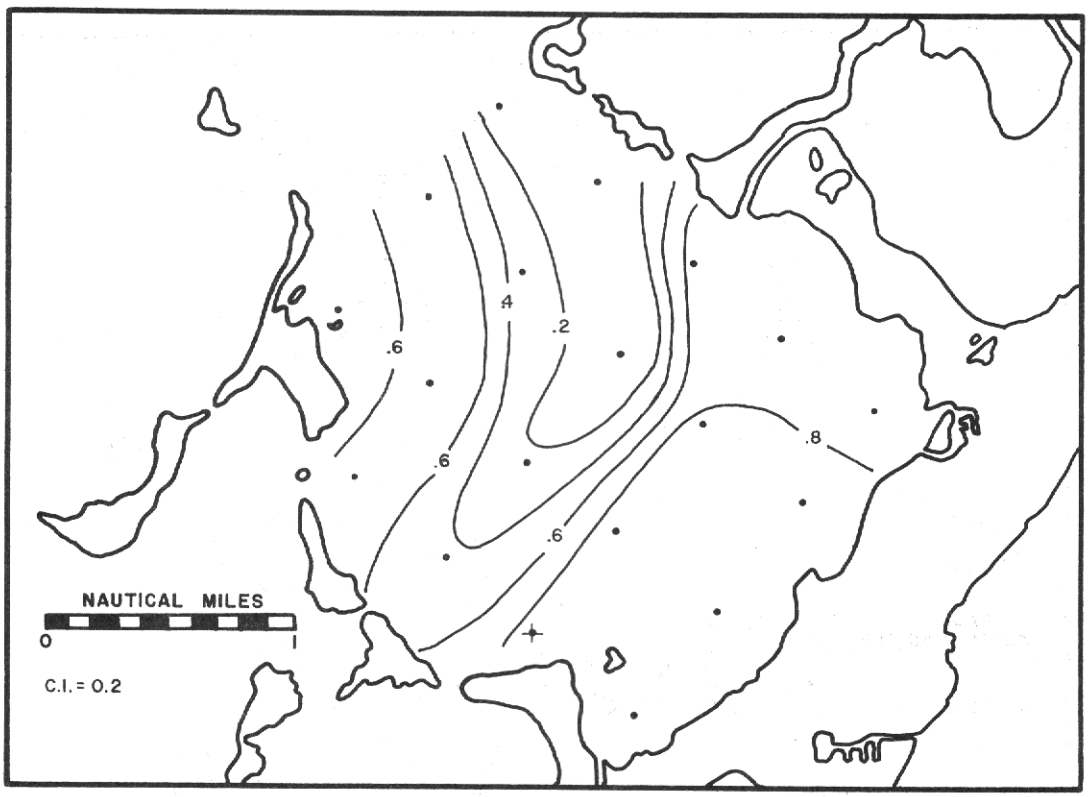

FIGURE 11. Proportional contribution of Environmental Model IV, February 9th, 1963. (Reference station indicated by +.)